

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**TRANSLATION**  
**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>		Date of mailing (day/month/year)	<b>See Form PCT/ISA/210 (sheet 2)</b>
Applicant's or agent's file reference <b>53 571</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. <b>PCT/DE2005/000049</b>	International filing date (day/month/year) <b>14.01.2005</b>	Priority date (day/month/year) <b>15.01.2004</b>	
International Patent Classification (IPC) or both national classification and IPC <b>B21 C23/08. B21 C23/21</b>			
Applicant <b>SMS EUMUCO GMBH</b>			

1. This opinion contains indications relating to the following items:	
<input checked="" type="checkbox"/>	Box No. I Basis of the opinion
<input type="checkbox"/>	Box No. II Priority
<input type="checkbox"/>	Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII Certain observations on the international application
2. <b>FURTHER ACTION</b> If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered. If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later. For further options, see Form PCT/ISA/220.	
3. For further details, see notes to Form PCT/ISA/220.	
Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/DE2005/000049

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	1-3	YES
	Claims		NO
Inventive step (IS)	Claims	1-3	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-3	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
<p>1      Reference is made to the following documents:</p> <p style="margin-left: 40px;">D1:   US 3 709 013 A (PETSCH E, DT) 9 January 1973                (1973-01-09)</p> <p style="margin-left: 40px;">D2:   US 3 362 208 A (MURPHY ALFRED MICHAEL ET AL)                9 January 1968 (1968-01-09)</p> <p>2      The subject matter of claim 1 lacks clarity. It is not evident from claim 1 that the mandrel cylinder is disposed in the main plunger. However, only in this configuration does the method of claim 1 make any sense. It is also unclear when during the method the control system operates. The analysis is therefore based on the following clarified wording of claim 1:</p> <p style="margin-left: 80px;">"a method for controlling ... that form a mandrel cylinder, <b>which is disposed in the main plunger</b>, an extrusion press ..., characterised in that, <b>while a block is being pressed</b>, the mandrel cylinder is ... control valve ... connected to a tank."</p>			

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Document D1 is considered to be the closest prior art. It discloses a method according to the preamble of claim 1 for controlling the position of a mandrel when a block is being pressed, the position of the mandrel being detected and pressure being exerted on the cylinder cavities of the mandrel cylinder depending on the detected position, in order to keep the mandrel in a constant position relative to the extrusion press. The subject matter of independent claim 1 differs from the aforesaid by virtue of the features specified in the characterising portion of claim 1, namely the direct drive of the mandrel cylinder, the additional throughput added to the pre-calculated pump throughput, and the connection of the ring side of the mandrel to a tank via a control valve.

2.1 Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)). The problem addressed by the present invention can therefore be seen as avoiding losses of pressure for the pumped throughput, and in this way to achieve a very precise return speed of the mandrel and hence to operate with pre-calculated pump throughputs and without complex control systems.

2.2 The solution to this problem as proposed in claim 1 of the present invention is based for the following reasons on an inventive step (PCT Article 33(3)):

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Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Although D1 shows a system for controlling the position of the mandrel purely through the mandrel cylinder, the control valve is arranged here between the pump and the mandrel cylinder, so there is no direct drive. Accordingly, it is not possible to operate with pre-calculated pump throughputs, either. It is necessary instead to detect the position of the mandrel and to adapt the throughput via the control valve or by means of a pump controller.

In D2, the position of the mandrel is defined by a mechanical stop member, so there is only impingement of the rearward space of the mandrel cylinder in order to press the mandrel against the stop member.

- 2.3 Claims 2, 3 depend on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

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**Box No. VII**      **Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description  
does not cite D1 or indicate the relevant prior  
art disclosed therein.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/DE2005/000049

**Box No. VIII**      **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

See Box V, paragraph 2.

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**14.01.2005**

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- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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	Claims		NO
Industrial applicability (IA)	Claims	1-3	YES
	Claims		NO
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<p>1 Reference is made to the following documents:</p> <p>D1: US 3 709 013 A (PETSCH E, DT) 9 January 1973 (1973-01-09)</p> <p>D2: US 3 362 208 A (MURPHY ALFRED MICHAEL ET AL) 9 January 1968 (1968-01-09)</p> <p>2 The subject matter of claim 1 lacks clarity. It is not evident from claim 1 that the mandrel cylinder is disposed in the main plunger. However, only in this configuration does the method of claim 1 make any sense. It is also unclear when during the method the control system operates. The analysis is therefore based on the following clarified wording of claim 1:</p> <p style="padding-left: 40px;">"a method for controlling ... that form a mandrel cylinder, <b>which is disposed in the main plunger</b>, an extrusion press ..., characterised in that, <b>while a block is being pressed</b>, the mandrel cylinder is ... control valve ... connected to a tank."</p>			

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